

In the Claims:

Claims 1-5 (Cancelled)

6. (Original) A thin film forming apparatus comprising a susceptor electrode disposed in opposed relation to a radio-frequency electrode and installed in a film forming chamber for supporting a substrate thereon, and a control unit for successively carrying out the steps of supplying a reactive gas to an inner space of said film forming chamber while exhausting the gas so as to maintain a desired pressure within said film forming chamber, and bringing said reactive gas into a plasma state under a first radio-frequency electric field formed between said radio-frequency electrode and said susceptor electrode, thereby forming a first coating on said substrate; and bringing said reactive gas into a plasma state under a greater second radio-frequency electric field than said first radio-frequency electric field while maintaining the plasma state between said radio-frequency electrode and said susceptor electrode, thereby forming a second coating on the surface of said first coating.

7. (Original) A thin film forming apparatus according to Claim 6, wherein desired plasma excitation power is applied to said radio-frequency electrode, and said second radio-frequency electric field is made greater than said first radio-frequency electric field by setting second substrate bias power applied to said susceptor electrode in forming said second coating to be greater than first substrate bias power applied to said susceptor electrode in forming said first coating.

8. (Original) A thin film forming apparatus according to Claim 6, wherein said second radio-frequency electric field is made greater than said first radio-frequency electric field by setting second plasma excitation power applied to said radio-frequency electrode in forming said second coating to be greater than first

plasma excitation power applied to said radio-frequency electrode in forming said first coating.

9. (Original) A thin film forming apparatus comprising a susceptor electrode disposed in opposed relation to a radio-frequency electrode and installed in a film forming chamber for supporting a substrate thereon, and a control unit for successively carrying out the steps of supplying a first gas mixture of monosilane gas and ammonia gas, which are mixed at a first mixing ratio, to an inner space of said film forming chamber while exhausting the gas so as to maintain a desired pressure within said film forming chamber; bringing said first gas mixture into a plasma state under a radio-frequency electric field formed between said radio-frequency electrode and said susceptor electrode, thereby forming a first silicon nitride film on said substrate; and supplying a second gas mixture of monosilane gas and ammonia gas, which are mixed at such a second mixing ratio as containing the ammonia gas at a greater proportion than at said first mixing ratio, to the inner space of said film forming chamber while maintaining the plasma state between said radio-frequency electrode and said susceptor electrode, and bringing said second gas mixture into a plasma state to thereby form a second silicon nitride film on the surface of said first silicon nitride film.